Selsius Systems™

Providing PBX Telephony
with your
IP LAN/WAN Network

January 19, 1998

Selsius Systems™
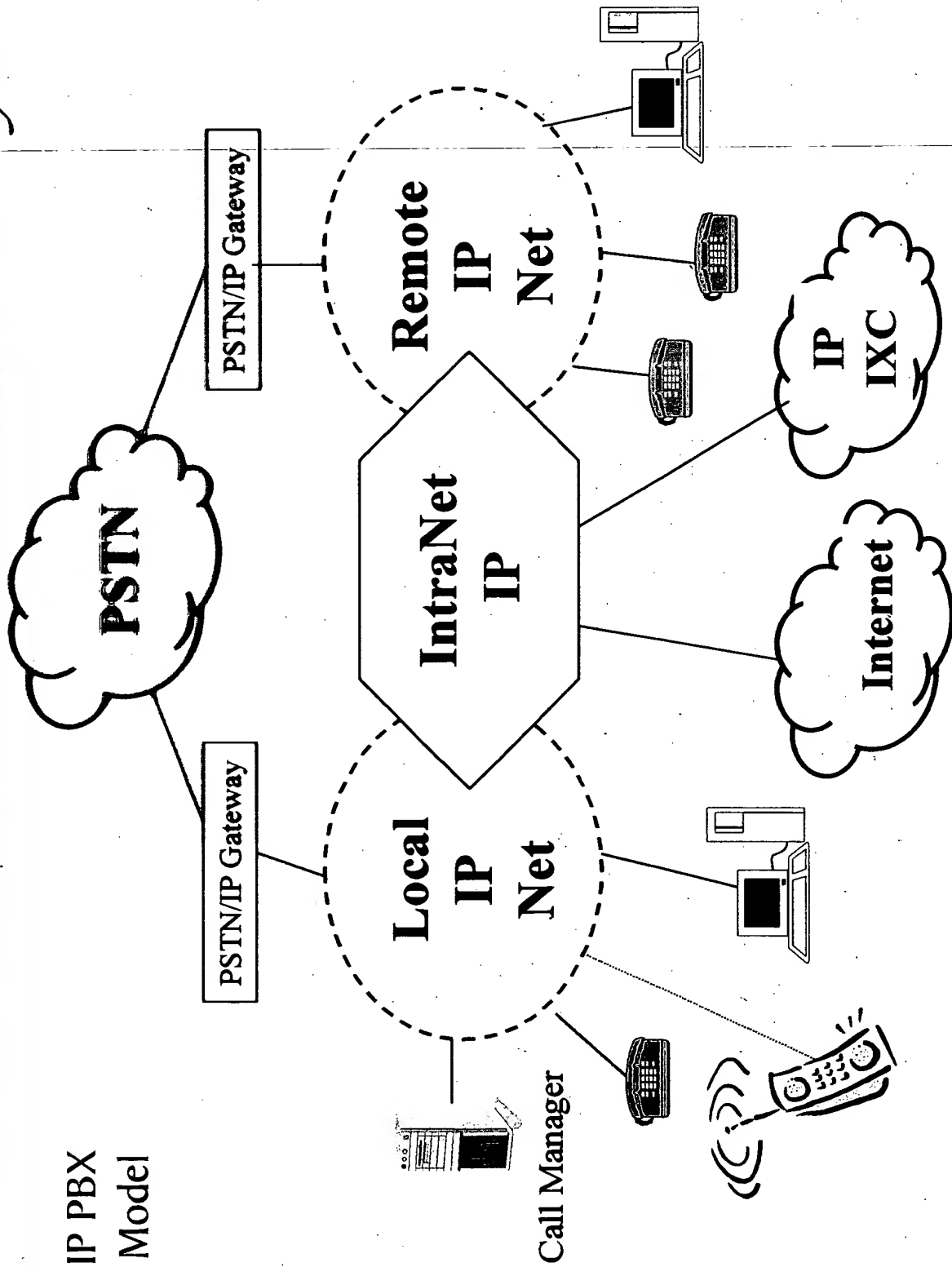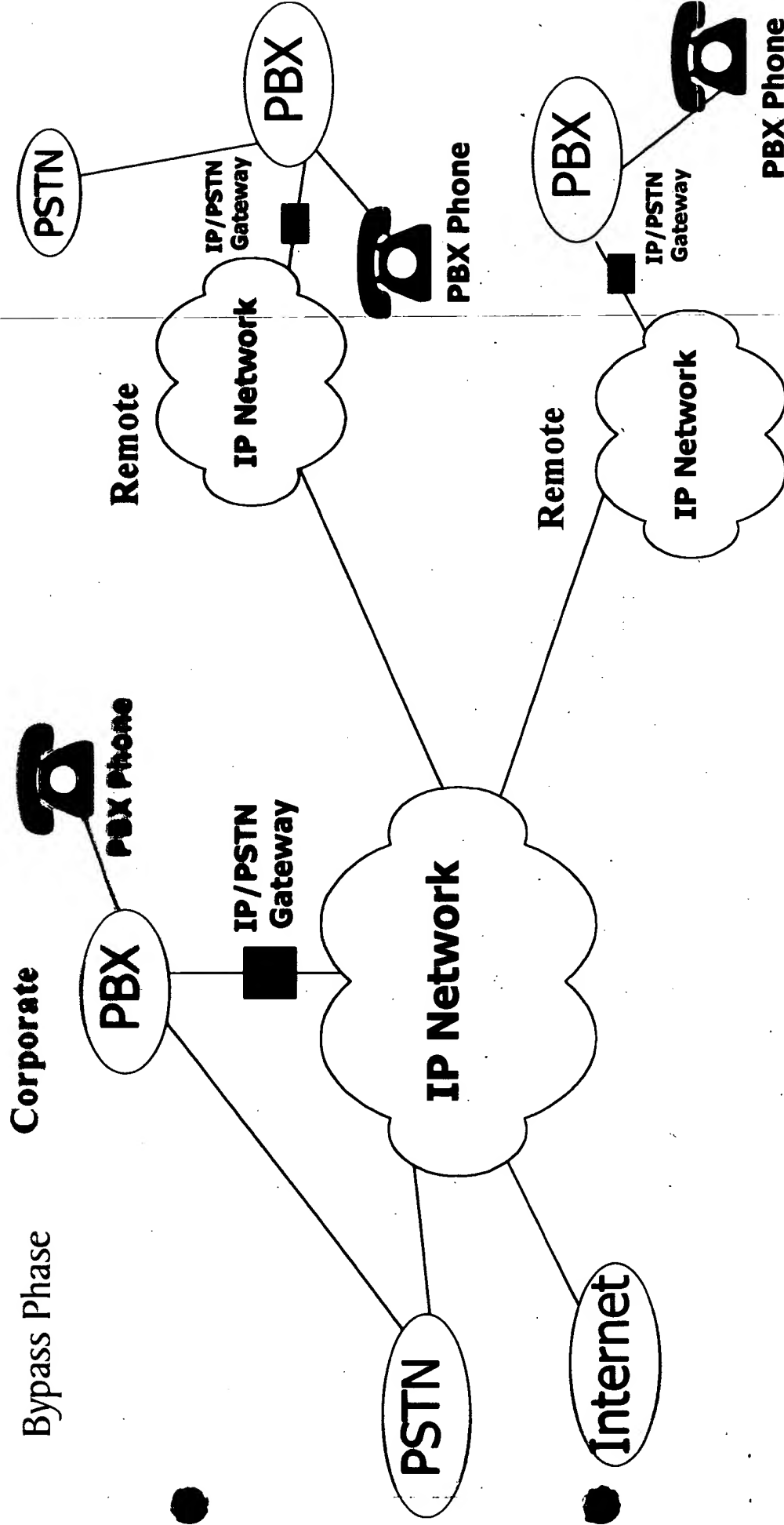
Vision

● "A new paradigm is emerging, where the IP network becomes the vehicle for delivering voice services, offering high-quality, reliable telephony along with a new set of enhanced services."
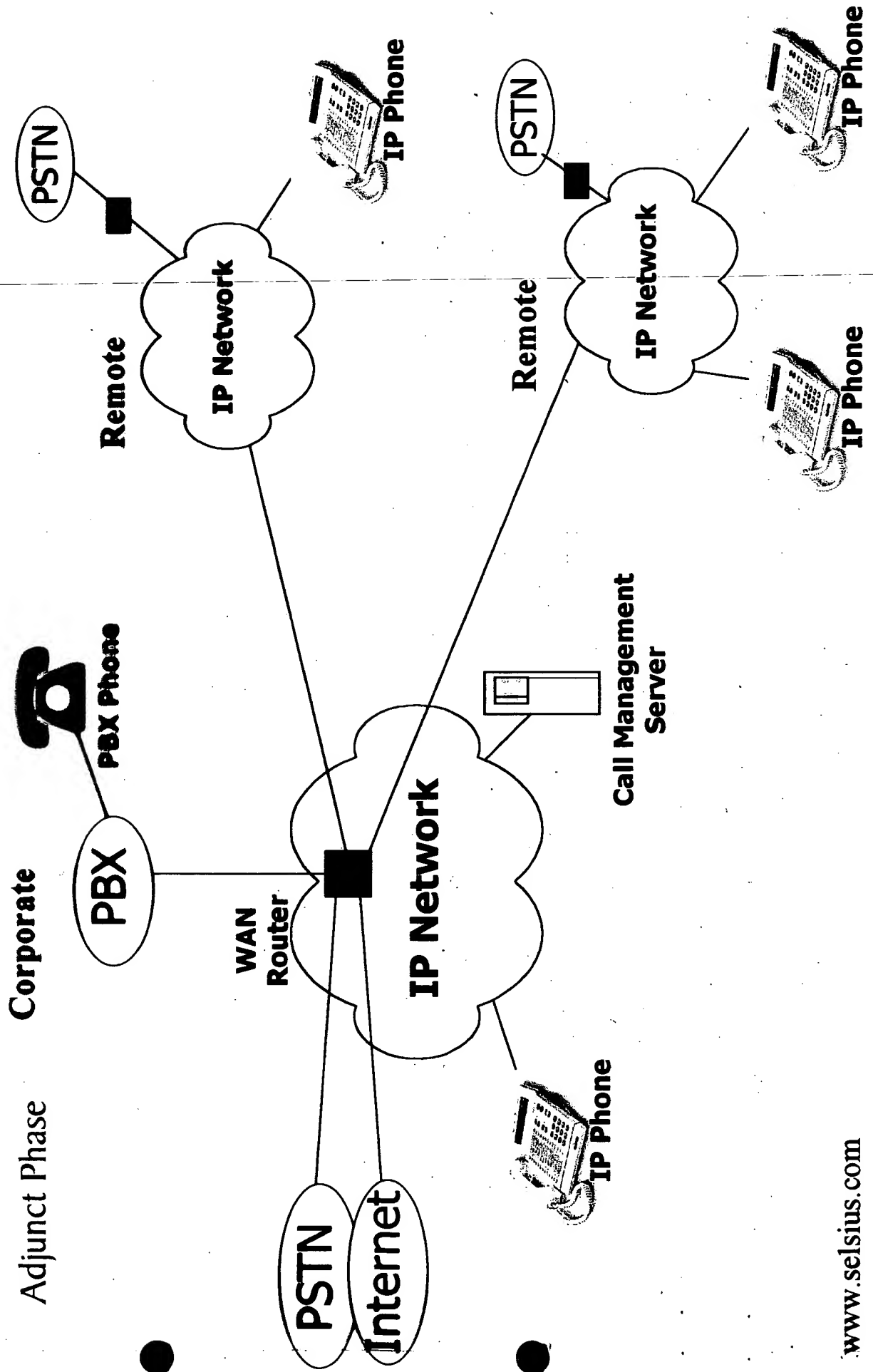
● Key Attributes:

   – Migrate circuit switching to standard IP LAN/WAN Networking

   – Standard-based, open intelligent call processing / gatekeeper services

   – Standard-based IP telephones (wired or wireless Ethernet) replace proprietary telephones

   – PSTN gateway options integrated into networking infrastructure for traditional connections

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IP PBX
Model

PSTN

PSTN/IP Gateway

PSTN/IP Gateway

Remote
IP
Net

Local
IP
Net

IntraNet
IP

IP
IXC

Internet

Call Manager

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Bypass Phase

Corporate
Remote

PBX Phone

PSTN

PBX

IP/PSTN Gateway

PSTN

IP Network

Internet

IP Network

Remote

PBX

IP/PSTN Gateway

PBX Phone

PBX

IP/PSTN Gateway

PBX Phone

IP Network

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Adjunct Phase

Corporate

Remote

Remote

PBX Phone

PBX

WAN Router

IP Network

IP Network

IP Network

PSTN

Internet

PSTN

PSTN

IP Phone

IP Phone

IP Phone

IP Phone

IP Phone

Call Management Server

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Consolidated
Phase

- IP Phone
- IP Phone

Remote IP Sites
PSTN
IP Phone
IP Phone

Remote IP Sites
PSTN
IP Phone
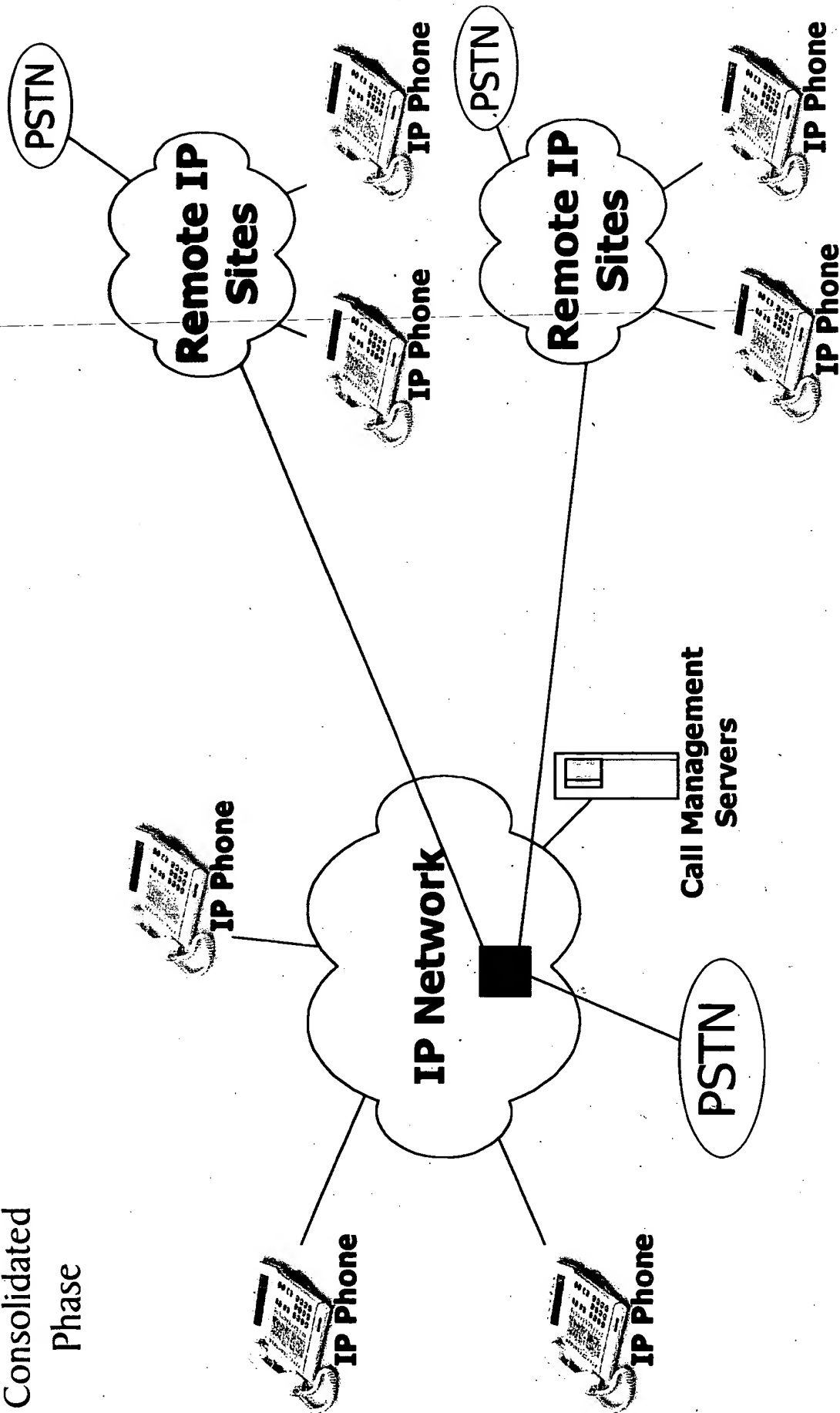IP Phone

IP Network
Call Management Servers
PSTN
IP Phone

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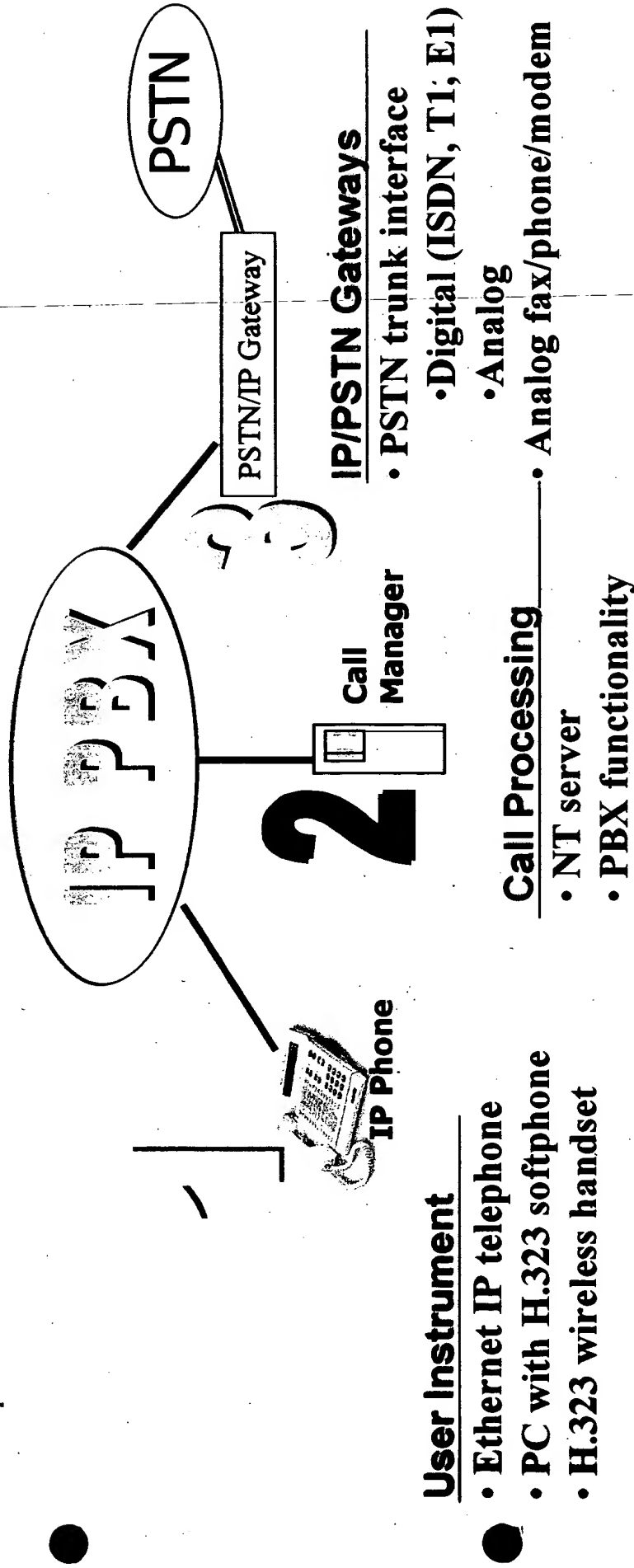
What are the advantages of a IP PBX?

- **Low maintenance.** With the integration of the existing voice and data network, comes a reduction in the cost of administration, since one network serves both functions, i.e.. moving a phone costs drop from $80 (traditional PBX) to $0.

- **ROBO (remote office/branch office) integration.** Simpler, less costly approach to remote offices.

- **Consolidate and reduce WAN Costs.** Lower network costs through consolidation of data and voice; longer term; leverage the Internet.

- **Single infrastructure.** New wiring and communications plants can be built at a lower cost because of a single wiring plant for communication.

- **Enhanced Communications.** An IP PBX enables video and data collaboration.

- **Lower capital acquisition.** Long term, the cost to install and grow PBX hardware will be lower, as volume and new suppliers enter the market.
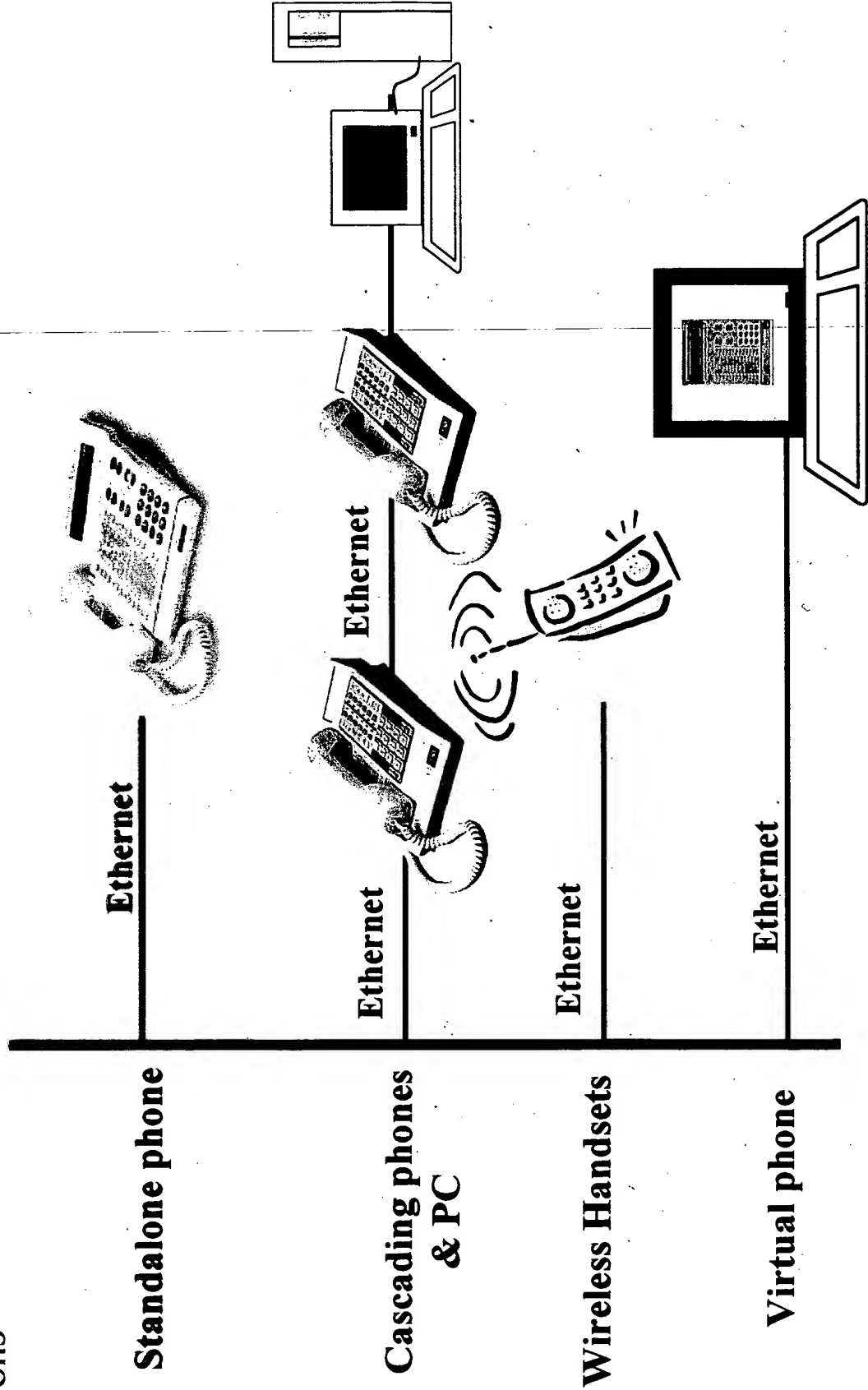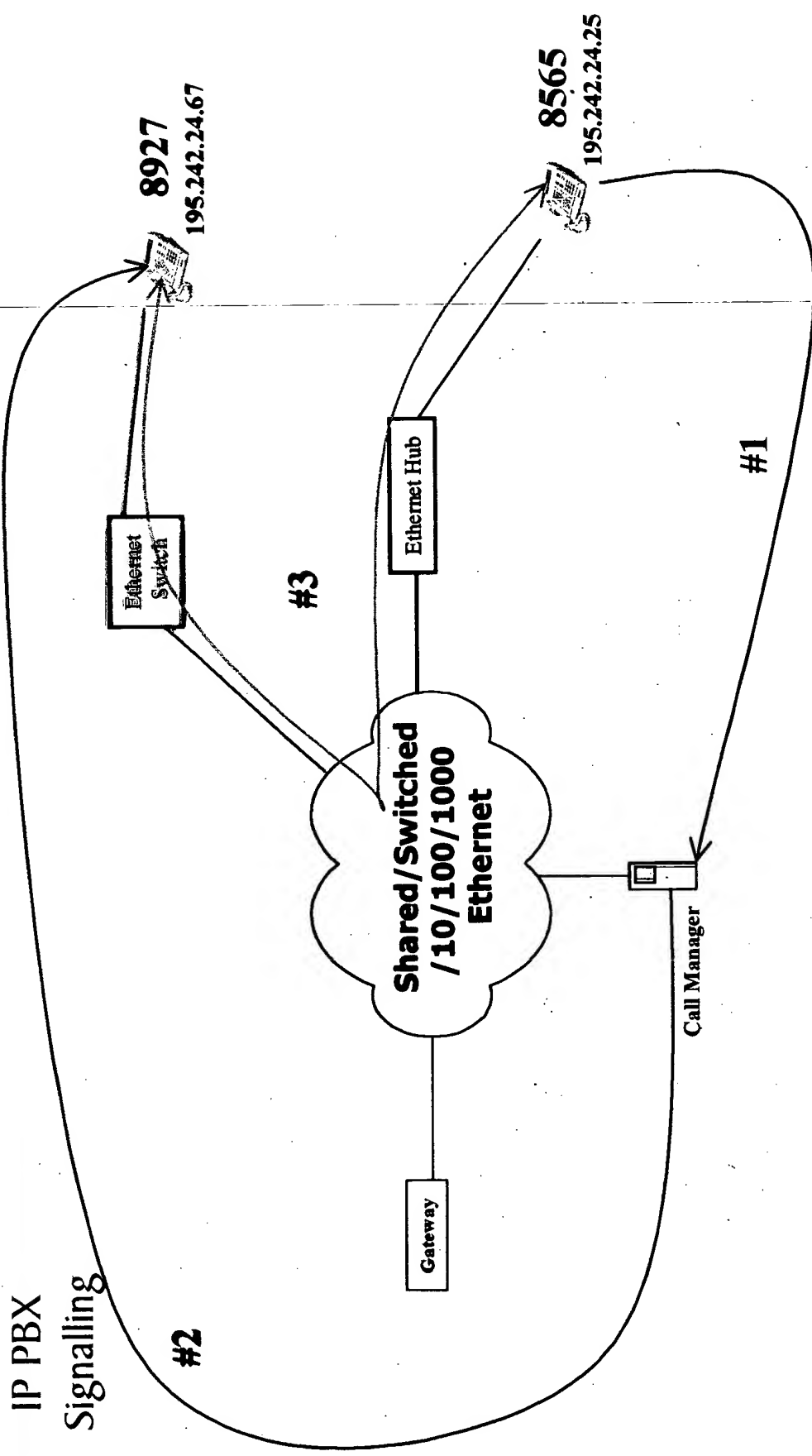
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3 Core
Components

PSTN

PSTN/IP Gateway

3

IP PBX

2

Call
Manager

IP Phone

User Instrument
- Ethernet IP telephone
- PC with H.323 softphone
- H.323 wireless handset

Call Processing
- NT server
- PBX functionality

IP/PSTN Gateways
- PSTN trunk interface
  - Digital (ISDN, T1; E1)
  - Analog
  - Analog fax/phone/modem

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IP LAN

Desktop Options

Standalone phone

Ethernet

Cascading phones & PC

Ethernet

Ethernet

Ethernet

Wireless Handsets

Ethernet

Virtual phone

Ethernet

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8927
195.242.24.67

8565
195.242.24.25

Ethernet Switch

Ethernet Hub

#3

#1

Shared/Switched /10/100/1000 Ethernet
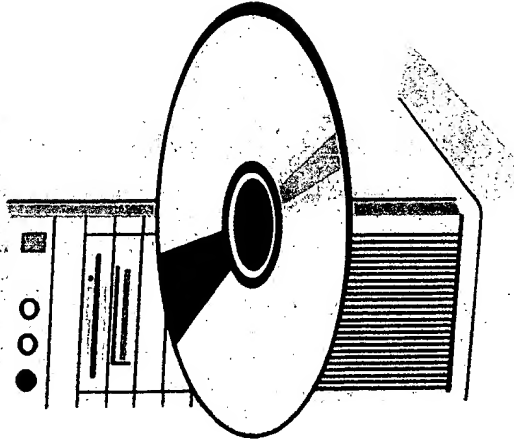
IP PBX
Signalling

#2

Gateway

Call Manager

Step #1: Ext 8565 goes off hook and dials ext 8927 call

Step #2: Call Manager determines route, compression and instructs ext 8927 to rings

Step#3: When 8927 goes off-hook, Call Manager tells 8565 to start RTP audio stream, with correct compression type to IP address for 8927.

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Product Functionality

- **Provides intelligent call processing and PBX functionality**
- **H.323 standard-based**
- **Windows NT-based**
- **Standard PC hardware with only a Ethernet NIC**
- **Signalling support for gateways (Q.931, H.245, H.225)**
- **Call processing engine**
  - Features: hold, transfer, forward (3 types), display messaging, last number redial, speed dial, call waiting, park, pickup etc.
  - Multiple line appearances/single number distribution
  - Bandwidth (Compression) Manager
  - SMDI interface to voice mail
  - Manageable using web interface
    - Real-time/historical performance monitor
    - CDR reporting
  - Architected for fault-tolerant and redundant operations for scalable/reliable operations

Selsius Call-Manager

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Product Release Content Currently

- Call transfer
- 3 types of forwarding
- hold
- Call park/pickup
- Call Waiting
- Multiple calls per line appearance
- multiple lines per phone
- multiple appearances per line
- Speed dial/ last # redial
- Single button NetMeeting
- Cisco 3620 access integration
- DHCP support
- vacant # intercept
- Configurable dial plan (E.164 translation)
- Digital PRI gateway

- analog access gateway (loop-start only for vmail)
- G.723 compression and call-by-call bandwidth management
- Automatic phone installation
- License management
- 3rd party voicemail interface (SMDI), joint marketing with Active Voice)
- CDR
- Cisco IP Precedence bit
- Performance monitor and event viewer
- 4 models of Ethernet telephones
- Virtual phone

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